

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for thermal conversion of carbonaceous feedstock(s) selected from biomass and organic wastes, ~~in which method~~ said process comprising:

- feeding the feedstock(s) is fed into a fluidized-bed reactor ~~(1-3; 41, 42, 52)~~, wherein the feedstock is converted at an elevated temperature under the influence of particulate matter kept in a fluidized state by a fluidizing gas,
- transferring the particulate matter ~~is transferred~~ from the reactor to a regenerator ~~(24, 28, 29; 43-45)~~ for regeneration and then ~~recirculated~~ recirculating the particulate matter to the reactor after the regeneration, and
- recovering the converted hydrocarbon products ~~are recovered~~ from the reactor, ~~characterized by using~~ wherein
 - ~~said~~ reactor ~~(1-3)~~, ~~which comprises~~ a riser ~~(13; 41)~~ having an axially annular cross section ~~and being equipped with~~ a multi-inlet cyclone ~~(14, 17; 50)~~ for the separation of particulate matter, and wherein
 - a said regenerator (24, 28, 29; 43-45), which is concentrically fitted around said reactor and wherein said regenerator comprises a riser (24) having an axially annular cross section and being concentrically fitted in respect of the reactor used, said regenerator being equipped with a multi-inlet cyclone (25, 26; 51) for separation of regenerated particulate matter.

2. (Currently Amended) The process according to claim 1, wherein ~~the reactor comprises~~ an intershell riser space ~~(13; 41)~~ is formed between two concentrically located cylindrical and/or conical envelope surfaces the reactor and the regenerator.

3. (Currently Amended) The process according to claim 1 or 2, wherein the ~~vapour~~ vapor residence time of said ~~process feedstock~~ is 0.1 - 5 s.

4. (Currently Amended) The process according to claim 1, wherein said comprising using a

~~multiport~~multi-inlet cyclone (17) ~~equipped~~further comprises ~~with~~ louvered vanes (14).

5. (Currently Amended) The process according to claim 1, wherein the reactor ~~(41, 42, 52)~~ is a circulating fluidized-bed reactor, ~~optionally having a channel (52) for internal circulation.~~

6. (Currently Amended) The process according to claim 1, wherein the regenerator ~~(43-45)~~ ~~is provided with~~ further comprises a channel (44) for internal recirculation.

7. (Currently Amended) The process according to claim 1, wherein the regenerator ~~is provided with~~ further comprises a dipleg (29; 45), which communicates with the riser of the reactor.

8. (Currently Amended) The process according to claim 1, wherein the feedstock is dried in a drier ~~(46-48)~~, said drier comprising a riser (46) having an axially annular cross section ~~and being equipped with a multi-inlet cyclone (49) for the separation of dried matter from vaporized gases.~~

9. (Currently Amended) The process according to claim 8, wherein the drier ~~is provided with~~ comprises a dipleg (48), which communicates with the riser (41) of the regenerator.

10. (Currently Amended) The process according to claim 8 or 9, wherein the drier ~~(46-48)~~ ~~is provided with~~ comprises a channel (47) for internal circulation.

11. (Currently Amended) The process according to claim 8, wherein the regenerator comprises a dipleg (45) of the regenerator which communicates with the riser of the drier ~~(46)~~.

12. (Previously Presented) The process according to claim 8, wherein the feedstock is thermally converted at a temperature of 400 - 1000 °C.

13. (Currently Amended) The process according to claim 1, wherein the feedstock is selected from the group consisting of forestry residues and thinnings, agricultural residues, energy crops, peat, refuse derived fuel, wastes from sawmills, plywood, furniture and other mechanical forestry wastes, plastic wastes and waste slurries.

14. (Currently Amended) The process according to claim 13, wherein the feedstock is selected from the group consisting of straw, olive thinnings, willow, energy hay and Miscanthous.

15. (Currently Amended) An apparatus for thermally converting carbonaceous feedstock(s), said apparatus comprising

- a drying unit ~~(46-48)~~ for drying the feedstock(s),
- a reaction unit ~~(41, 42, 52)~~ in which the feedstock is contacted with ~~hot~~heated, fluidized-state particulate matter, and
- a regenerator unit ~~(43-45)~~ for regeneration of the particulate matter contaminated in the ~~first unit process~~reaction unit,
characterized in that wherein
 - the reaction unit comprises a riser ~~(41)~~ with having an axially annular cross section ~~and having equipped with~~ a multi-inlet cyclone ~~(50)~~ for separating ~~solids particulate matter~~ from gas, and
 - the regenerator unit comprises a ~~circulating fluidized bed reactor~~riser ~~(43, 44)~~ and a dipleg ~~(45)~~ fitted about the reaction unit ~~(41, 42, 52)~~ in a symmetrically concentric fashion, said riser ~~(43)~~ having an axially annular cross section ~~and being equipped with~~ a multi-inlet cyclone ~~(51)~~ for ~~separation~~separating of ~~solids particulate matter~~ from gas, said dipleg ~~(45)~~ of the regenerator unit communicating with the riser of the reaction unit and with the drying unit.

16. (Currently Amended) The apparatus according to claim 15, wherein the regenerator unit ~~(43-45)~~ comprises a channel ~~(44)~~ for internal recirculation of ~~solid~~ the particulate matter within the regenerator unit.

17. (Currently Amended) The apparatus according to claim 15 or 16, wherein the reaction unit ~~(41, 42, 52)~~ comprises a channel ~~(52)~~ for internal recirculation of ~~solid~~ the particulate matter within the reactor.

18. (Currently Amended) The apparatus according to claim 15, wherein the drying unit ~~(46-48)~~ comprises a riser ~~(46)~~ fitted about the reaction unit in a symmetrically concentric fashion, said riser having an axially annular cross section.

19. (Currently Amended) The apparatus according to claim 18, wherein the drying unit ~~(46-48)~~ comprises a dipleg having an axially annular cross section ~~and communicating~~ which communicates with the riser ~~(41)~~ of the reaction unit.

20. (Currently Amended) The apparatus according to claim 18 or 19, wherein the riser ~~(46)~~ of the drying unit is equipped with a gas and ~~solids~~ particulate matter separating means formed by a multi-inlet cyclone ~~(49)~~.

21. (New) The process according to claim 5, wherein the circulating fluidized-bed reactor has a channel for internal circulation.